AMENDMENTS TO THE CLAIMS

Claims 1-49 **(Canceled)**

50. **(Currently Amended)** A method of during the manufacture of a slider member to be used in sliding relation to an other member, forming micro-protrusions on or micro-cavities in a surface of a substrate from which is formed the slider member, in a manner to reduce sticking between the surface and the other member and to reduce entrapment of foreign particles therebetween, said method comprising:

placing the substrate in a process chamber;

supporting a mask member in front of the surface of the substrate, the mask member disposed in contact with or in proximity of the substrate surface, and the mask member having a plurality of cavities arranged as a matrix-type on a plate;

irradiating fast atomic beams through the mask member onto the surface of the substrate, and forming the micro-protrusions or the micro-cavities, said forming comprising controlling said irradiating such that each micro-protrusion or micro-cavity has a top or bottom surface, respectively, and a side surface, with the side surface extending at an inclusive angle of from ~~approximately 80°~~ larger than 90° to approximately 110° to an intended direction of sliding of the slider member relative to the other member and to the surface of the substrate, wherein the micro-protrusions or micro-cavities have a height or depth ranging from 10 to 50 nm and 10 to 1,000,000 micro-protrusions or micro-cavities are formed on a $1mm^2$ surface of the substrate; and

forming a magnetic film layer and a protective film layer on the micro-protrusions or the micro-cavities.

51. **(Previously Presented)** A method as claimed in claim 50, wherein the mask member has a plurality of openings arranged in a matrix-type array formed on a plate.

52. **(Previously Presented)** A method as claimed in claim 51, wherein the opening is circular-shaped, oval-shaped, square-shaped or honeycomb-shaped.

53. **(Previously Presented)** A method as claimed in claim 51, wherein the opening is rhombus-shaped or hexagonal-shaped.

54. **(Previously Presented)** A method as claimed in claim 50, wherein the slider member comprises a magnetic disc or a magnetic head.

55. **(Previously Presented)** A method as claimed in claim 50, wherein the surface of the substrate comprises glass.

56. **(Previously Presented)** A method as claimed in claim 50, wherein said irradiating comprises directing, the fast atomic beams from a beam source at an angle of incidence determined by an angle of inclination measured with respect to a rotation axis normal to the surface of the substrate, and rotating one of the beam source and the substrate about the rotation axis relative to the other of the beam source and the substrate.

57. **(Previously Presented)** A method as claimed in claim 50, wherein said irradiating comprises a first irradiation operation of irradiating the fast atomic beams through a first mask member comprising parallel wires or rods disposed adjacent to the surface of the substrate, and a second irradiation operation of irradiating the fast atomic beams through a second mask member comprising parallel wires or rods disposed adjacent to the surface of the substrate.

58. **(Previously Presented)** A method as claimed in claim 50, wherein the protective layer comprises carbon, SiO_2, or ceramic material.

Claims 59-62 **(Canceled)**

63. **(Previously Presented)** A method as claimed in claim 50, wherein the mask member comprises micro-objects dispersed on the surface of the substrate.

64. **(Previously Presented)** A method as claimed in claim 63, wherein the micro-objects comprise micro-particles of powder.

65. **(Previously Presented)** A method as claimed in claim 63, wherein the micro-objects are formed from at least one material selected from the group consisting of alumina, carbon, Si_3N_4, SiC, TiN, ZrO_2, MgO and synthetic resin.

66. **(Previously Presented)** A method as claimed in claim 64, wherein the micro-objects are susceptible to etching by the fast atomic beams.

67. **(Previously Presented)** A method as claimed in claim 64, wherein the micro-objects are not susceptible to etching by the fast atomic beams.

68. **(Previously Presented)** A method as claimed in claim 50, wherein the mask member comprises a plurality of fine wire or rod members disposed adjacent the surface of the substrate.

69. **(Previously Presented)** A method as claimed in claim 68, wherein the plurality of wire or rod members extend parallelly.

70. **(Previously Presented)** A method as claimed in claim 68, wherein the plurality of wire or rod members are arranged to form a matrix.

71. **(Previously Presented)** A method as claimed in claim 50, wherein the micro-protrusions or micro-cavities have a height or depth of approximately 10 nm.

72. **(Currently Amended)** A method of, during the manufacture of a slider member to be used in sliding relation to an other member, forming micro-protrusions on or micro-cavities in a surface of the slider member in a manner to reduce sticking between the surface and the other member and to reduce entrapment of foreign particles therebetween, said method comprising:

depositing a protective film layer on a substrate;

placing the substrate in a process chamber;

supporting a mask member in front of the surface of the protective film layer, the mask member disposed in contact with or in proximity of the surface, and the mask member having a plurality of cavities arranged as a matrix-type on a plate;

irradiating fast atomic beams through the mask member onto the surface of the protective film layer, and forming the micro-protrusions or the micro-cavities, said forming comprising controlling said irradiating such that each micro-protrusion or micro-cavity has a top or bottom surface, respectively, and a side surface, with the side surface extending at an inclusive angle of from ~~approximately 80°~~ larger than 90° to approximately 110° to an intended direction of sliding of the slider member relative to the other member and to the surface of the substrate, wherein the micro-protrusions or micro-cavities have a height or depth ranging from 10 to 50 nm and 10 to 1,000,000 micro-protrusions or micro-cavities are formed on a 1 mm^2 surface of the substrate.

73. **(Previously Presented)** A method as claimed in claim 72, wherein the protective layer comprises carbon, SiO_2, or ceramic material.

74. **(Previously Presented)** A method as claimed in claim 72, wherein a magnetic film layer is formed between the protective film layer and the substrate.

75. **(Currently Amended)** A method of, during the manufacture of a slider member to be used in sliding relation to an other member, forming micro-protrusions on or micro-cavities in a surface of a substrate from which is formed the slider member, in a manner to reduce sticking between the surface and the other member and to reduce entrapment of foreign particles therebetween, said method comprising:

placing the substrate in a process chamber, wherein the substrate has a smooth curved sliding surface;

supporting a mask member in front of the surface of the substrate, the mask member disposed in contact with or in proximity of a portion of the substrate surface, and the mask member

having a plurality of cavities arranged as a matrix-type on a plate;

irradiating fast atomic beams through the mask member onto the surface of the substrate, and forming the micro-protrusions or the micro-cavities, said forming comprising controlling said irradiating such that each micro-protrusion or micro-cavity has a top or bottom surface, respectively, and a side surface, with the side surface extending at an inclusive angle of from ~~approximately 80°~~ larger than 90° to approximately 110° to an intended direction of sliding of the slider member relative to the other member, wherein the micro-protrusions or micro-cavities have a height or depth ranging from 10 to 50 nm and 10 to 1,000,000 micro-protrusions or micro-cavities are formed on a $1mm^2$ surface of the substrate.

76. **(Previously Presented)** A method as claimed in claim 75, wherein the slider member comprises a magnetic head.

77. **(Previously Presented)** A method as claimed in claim 75, further comprising:

forming a protective film layer on the micro-protrusions or the micro-cavities.

78. **(Withdrawn)** A method of manufacturing a slider member to be used in sliding relation to an other member, said slider member being a thrust bearing housing, said method comprising:

placing a cylindrical body of the thrust bearing housing in a process chamber;

disposing a plurality of wires arranged radially on a surface of the cylindrical body;

irradiating fast atomic beams toward the plurality of wires onto a surface of the cylindrical body, and forming micro-protrusions or micro-cavities, said forming comprising controlling said irradiating such that each micro-protrusion or micro-cavity has a top or bottom surface, respectively, and a side surface, with the side surface extending at an inclusive angle of from approximately 80° to approximately 110° to an intended direction of sliding of the slider member relative to the other member.

79. **(Currently Amended)** A method of, during the manufacture of a slider member to be used in sliding relation to an other member, forming micro-protrusions on or micro-cavities in a

surface of a substrate from which is formed the slider member, in a manner to reduce sticking between the surface and the other member and to reduce entrapment of foreign particles therebetween, said method comprising:

placing the substrate in a process chamber;

supporting a mask member in front of the surface of the substrate, the mask member disposed in contact with or in proximity of the substrate surface;

irradiating fast atomic beams through the mask member onto the surface of the substrate, and forming said micro-protrusions or said micro-cavities, said forming comprising controlling said irradiating such that each micro-protrusion or micro-cavity has a top or bottom surface, respectively, and a side surface, with the side surface extending at an inclusive angle of from ~~approximately 80°~~ larger than 90° to approximately 110° to an intended direction of sliding of the slider member relative to the other member and to the surface of the substrate, wherein the micro-protrusions or micro-cavities are two-stage protrusions having a plurality of top-stage protrusions and lower-stage protrusions; and

forming a magnetic film layer and a protective film layer on the micro-protrusions or the micro-cavities.